Reply to March 18, 2008 Office Action

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the

Docket No. 1232-5181

Amdt. Dated: June 13, 2008

application:

Listing of Claims:

Claim 1 (currently amended): A signal processing apparatus comprising:

an image sensing device which has a plurality of photoelectric conversion elements

covered with a color filter;

a driver which drives said image sensing device in a first reading mode of separately

reading signals from respective lines of photoelectric conversion elements and a second reading

mode of reading all signals in one scan by adding signals generated by the lines of photoelectric

conversion elements by at least two signals corresponding to the photoelectric conversion

elements of a same color in every other line then outputting lines of the added signals, a color

order of the added signals being the same as a color order of the signals before being added, in

said second reading mode, a spatial distance between the barycenters of first and second lines,

adjacent to each other, of the added signals being different from a spatial distance between

barycenters of the second line and of a third line of the added signals that is adjacent to said

second line;

a switch that switches between the first reading mode and the second reading mode; and

a correction unit that passes signals inputted from the image sensing device without

correcting positions of barycenters of the inputted lines of signals when the first reading mode is

set, and corrects positions of barycenters of the inputted lines of added signals so that the spatial

distances between barycenters of the first to third lines becomes equal when the second reading

mode is set.

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Claim 2 (canceled):

Claim 3 (original): The signal processing apparatus according to claim 1, further

comprising a signal processing unit that applies camera signal processes suitable for signals

whose color order is the same as that of the color filter to the signals outputted from said

correction unit.

Claim 4 (previously presented): The signal processing apparatus according to claim 1,

wherein said color filter has a Bayer arrangement of the three primary colors.

Claim 5 (original): The signal processing apparatus according to claim 4, wherein,

when letting signals in an even number line and signals in an odd number line subjected to the

correction by said correction unit be P<sub>2n</sub> and P<sub>2n-1</sub> (n is a natural number), respectively, and

letting corrected signals in an even number line be P'2n and corrected signals in an odd number

line be P'2n-1, said correction unit performs operations of:

 $P'_{2n} = 1/8 \times P_{2n-2} + 7/8 \times P_{2n}$  and

 $P'_{2n-1} = 7/8 \times P_{2n-1} + 1/8 \times P_{2n+1}$ 

Claim 6 (original): An image sensing apparatus comprising:

an image sensing device;

a driving unit that drives said image sensing device; and

the image processing apparatus according to claim 1.

Claim 7 (currently amended): A signal processing method for processing an image

signal outputted from an image sensing device which has a plurality of photoelectric conversion

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elements covered with a color filter and which can be driven in a first reading method of

separately reading signals from respective lines of photoelectric conversion elements and a

second reading method of reading all signals in one scan by adding signals generated by the lines

of photoelectric conversion elements by at least two signals corresponding to the photoelectric

conversion elements of a same color in every other line then outputting lines of the added

signals, a color order of the added signals being the same as a color order of the signals before

being added, in said second reading method, a spatial distance between barycenters of first and

second lines, adjacent to each other, of the added signals being different from a spatial distance

between the barycenters of the second line and of a third line of the added signals that is adjacent

to said second line, comprising:

determining which of the first reading method and the second reading method is set; and

correcting positions of the barycenters of the lines of signals inputted from the image

sensing device so that the spatial distances between the barycenters of the first to third lines

becomes equal when the second reading method is set.

Claim 8 (canceled):

Claim 9 (original): The signal processing method according to claim 7, further

comprising applying camera signal processes suitable for signals whose color order is the same

as that of the color filter to the signals outputted from said correction unit.

Claim 10 (previously presented): The signal processing method according to claim 7,

wherein said color filter has a Bayer arrangement of the three primary colors.

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Claim 11 (original): The signal processing method according to claim 10, wherein, when letting signals in an even number line and signals in an odd number line subjected to the correction by said correction unit be  $P_{2n}$  and  $P_{2n-1}$  (n is a natural number), respectively, and letting corrected signals in an even number line be  $P'_{2n}$  and corrected signals in an odd number line be  $P'_{2n-1}$ , operations of:

$$P'_{2n} = 1/8 \times P_{2n-2} + 7/8 \times P_{2n}$$
 and

$$P'_{2n-1} = 7/8 \times P_{2n-1} + 1/8 \times P_{2n+1}$$

are performed in said correcting.

Claim 12 (original): A storage medium, readable by an information processing apparatus, storing a program including program codes capable of realizing the signal processing method according to claim 7, the program being executable by the information processing apparatus.